



AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/620,346

Attorney Docket No.: Q76616

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A wiring board obtained by coating a copper paste on a ceramic green sheet and firing it to form a conductor layer and an insulating layer, the copper paste comprising a copper powder, an organic vehicle ~~and at least one selected from the group consisting of:~~ an SiO₂ particle having an average particle size of 50 nm or ~~less;~~ less, and a ceramic particle having an average particle size of 100 nm or less and non-vitrifiable after sintering selected from the group consisting of Al₂O₃, TiO₂, CeO₂ and mullite.
2. (currently amended): A wiring board obtained by coating a copper paste on a ceramic green sheet and firing it to form a conductor layer and an insulating layer, the copper paste comprising a copper powder, an organic vehicle and an SiO₂ particle in an amount of 0.1 to 5 parts by mass per 100 parts by mass of copper powder having an average particle size of 50 nm or less.
3. (canceled).
4. (original): The wiring board according to claim 1, wherein the conductor layer has a resistivity of $3 \times 10^{-6} \Omega \cdot \text{cm}$ or less.
5. (original): The wiring board according to claim 1, wherein the insulating layer comprises an alkali metal in amount of 0.5 mol% or less in terms of oxide.

6. (currently amended): The wiring board according to claim 1, wherein the conductor layer comprises an inorganic material excluding metal having an average particle size of 2 μm or less, the inorganic material being dispersed within the conductor layer ~~so as not to be exposed to an outside of the conductor layer.~~

7. (original): The wiring board according to claim 1, wherein a surface of the conductor layer is subjected to a plating treatment.

8. (currently amended): A wiring board comprising a conductor layer containing an inorganic material excluding metal dispersed within the conductor layer, wherein in a cross section in a thickness direction of the conductor layer, a total area of the inorganic material having a particle size of 2 μm or more is 5% or less of the sectional area of the conductor layer.

9. (currently amended): A wiring board comprising a conductor layer containing an inorganic material excluding metal dispersed within the conductor layer, wherein in a cross section in a thickness direction of the conductor layer, a total area of the inorganic material having a particle size of 3 μm or more is 2% or less of the sectional area of the conductor layer.

10. (original): The wiring board according to claim 8, wherein a surface of the conductor layer is subjected to a plating treatment.

11. (canceled).

12. (canceled).

13. (canceled).

14. (canceled).

15. (withdrawn-currently amended): A method for producing a wiring board obtained by coating a copper paste on a ceramic green sheet and firing it to form a conductor layer and an insulating layer, the copper paste comprising a copper powder, an organic vehicle ~~and at least one selected from the group consisting of:~~ an SiO_2 particle having an average particle size of 50 nm ~~or less;~~ less, and a ceramic particle having an average particle size of 100 nm or less and non-vitrifiable after sintering selected from the group consisting of Al_2O_3 , TiO_2 , CeO_2 and mullite, said method comprising the steps of:

coating the copper paste on a ceramic green sheet;

exposing the coated sheet to a wet nitrogen atmosphere at 650 to 900°C so as to remove organic components; and

firing the sheet at 850 to 1,050°C after the exposing.